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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,034	04/01/2004	Karen Luke	HES	9295
28857	7590	12/27/2005	2000-IP-002115U1P6	
CRAIG W. RODDY HALLIBURTON ENERGY SERVICES P.O. BOX 1431 DUNCAN, OK 73536-0440			EXAMINER SUCHFIELD, GEORGE A	
			ART UNIT	PAPER NUMBER
			3676	

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/816,034

Applicant(s)

LUKE ET AL.

Examiner

George Suchfield

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-95 is/are pending in the application.
- 4a) Of the above claim(s) 32-95 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-95 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) 7/15/05
Paper No(s)/Mail Date 7/13/04; 9/24/04; 10/26/04; 2/14/05; 4/14/05;
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-31, drawn to a method of cementing a subterranean formation, classified in class 166, subclass 292.
 - II. Claims 32-95, drawn to a cement composition and methods of preparing, classified in class 106, subclass 805.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the composition or product of, or prepared by, the Group II invention could be used in cementing applications other than the well cementing process of the Group I invention, e.g., in a concrete formulation utilized in highway, sidewalk and/or building construction.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
5. During a telephone conversation between Elizabeth Wood, AU 1755, and Craig W. Roddy on February 23, 2005 a provisional election was made without traverse to prosecute the

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invention of Group I, claims 1-31. Affirmation of this election must be made by applicant in replying to this Office action. Claims 32-95 stand withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 11-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Insofar as parent claim 1 already recites a specific ratio of first and second fluid loss additives of “about 1:5.67”, it is not clear how claims 11-13, which call for different relative amounts of first and second fluid loss additives, such as “in a ratio of about 1:3” relate to claim

1. Moreover, claim 11-13 further comprise improper dependent claims insofar as they appear to not require or include all the limitations of the parent claim.

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g.,

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In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 1-17 and 20-31 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-45 of copending Application No. 10/608,748. Although the conflicting claims are not identical, they are not patentably distinct from each other because the specific ratio of the first and second fluid loss agents utilized in the '748 claims, such as claims 1 and 10, would have been an obvious matter of choice or design to one of ordinary skill in the art based on, e.g., routine experimentation for process optimization and/or the characteristics and properties of the subterranean zone(s) or wellbore environment actually encountered in the field. It is further noted that the respective fluid loss agents, such as the acrylamide copolymer derivative and hydroxyethylcellulose, will necessarily or obviously possess differing molecular weights, depending on the exact composition utilized.

Otherwise the limitations and steps set forth in the pending claims 2-31 are deemed encompassed, overall, by the corresponding steps and limitations of the '748 claims. For example, the zeolite formula of pending claim 2, along with one or more of the specific zeolites

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recited in claim 3 are deemed encompassed by the '748 claims insofar as zeolites, per se, comprise combined aluminum oxides and silicon oxides, in varying amounts.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Applicant has provided evidence in this file showing that the invention was owned by, or subject to an obligation of assignment to, the same entity as Morgan et al (2004/0262000) at the time this invention was made, or was subject to a joint research agreement at the time this invention was made. However, reference Morgan et al (2004/0262000) additionally qualifies as prior art under 35 U.S.C. 102 (e), and therefore, is not disqualified as prior art under 35 U.S.C. 103(c).

Applicant may overcome the applied art either by a showing under 37 CFR 1.132 that the invention disclosed therein was derived from the invention of this application, and is therefore, not the invention "by another," or by antedating the applied art under 37 CFR 1.131.

13. Claim 1-3, 6-14, 16 and 20-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan et al (2004/0262000).

Morgan et al discloses a process of cementing a subterranean zone by forming a cementing composition comprising a hydraulic cement, a zeolite and a combination or mixture of a first and second fluid loss agent, such as an acrylamide copolymer derivative and hydroxyethylcellulose.

It is deemed that the specific ratio of the first and second fluid loss agents utilized in the cementing method of Morgan et al (note Para [0017]), as called for in pending claim 1, would have been an obvious matter of choice or design to one of ordinary skill in the art based on, e.g., routine experimentation for process optimization and/or the characteristics and properties of the subterranean zone(s) or wellbore environment actually encountered in the field. It is further noted that the first and second or respective fluid loss agents, such as the acrylamide copolymer derivative and hydroxyethylcellulose, will necessarily or obviously possess differing molecular weights, depending on the exact composition utilized.

The zeolite formula of claim 2 is deemed encompassed or inherent in Morgan et al, insofar as zeolites, per se, comprise combined aluminum oxides and silicon oxides, in varying amounts.

Official notice is taken that the specific zeolites listed in claim 3, such as analcime, are conventional and well-known zeolites. Accordingly, it would have been an obvious matter of choice or design to one of ordinary skill in the art to which the invention pertains, to select one of the specific zeolites listed in claim 3 for use in the well cementing process of Morgan et al, based on relative availability or cost effectiveness.

As per claims 6-10, as noted above with respect to claim 1, the molecular weight of the respective fluid loss agents, and thus the comparative ratios recited, will vary depending on the

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particular first and second fluid loss agents selected, with such selection, in turn, deemed an obvious matter of choice or design based on, e.g., relative availability and/or cost effectiveness.

As per claims 11-13, Morgan et al (Para [0017]) discloses the first fluid loss additive or acrylamide copolymer may be present in the fluid loss agent blend within a range of 1-99% by weight, which includes the range(s)/ratio(s) recited.

As per claims 14 and 16, as noted above, one of the fluid loss agents may comprise hydroxyethylcellulose.

As per claims 20-23, the cementing process of Morgan et al (note Para [0015]) employs water in the cementing slurry in an amount of 15-200 % by weight, which encompasses the ranges set forth in these claims.

As per claims 24-31, the cementing slurry components, such as type of cement or accelerator(s) are clearly set forth in Morgan et al (note Para [0026]) or comprise conventional cementing slurry components useful in the well cementing art, hence their use in the process of Morgan et al would be an obvious matter of choice or design based on, e.g., relative availability or cost effectiveness of such commercially-available cementing additives.

14. Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan et al (2004/0262000), as applied to claim 1 above, and further in view of Luke et al (6,964,302).

Luke et al (note col. 58, line 65 - col. 59, line 10) discloses a method of cementing a well or subterranean zone with a cementing slurry comprising a hydraulic cement, zeolite and a fluid loss agent which may comprise a hydrophobically-modified hydroxyethylcellulose.

Accordingly, it would have been obvious to one of ordinary skill in the art to which the invention pertains, to similarly substitute or employ a hydrophobically-modified

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hydroxyethylcellulose for the (apparently) non hydrophobically-modified hydroxyethylcellulose fluid loss agent of Morgan et al, as taught by Luke et al, based on, e.g., the relative availability and/or cost effectiveness of such conventional hydroxyethylcellulose fluid loss components.

15. Claim 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luke et al (6,964,302) in view of Kirkland et al (4,784,693)

Luke et al (note col. 58, line 65 - col. 59, line 10) discloses a method of cementing a well or subterranean zone with a cementing slurry comprising a hydraulic cement, zeolite and a fluid loss agent which may comprise a hydroxyethylcellulose or a hydrophobically-modified hydroxyethylcellulose.

Kirkland et al (note col. 3, lines 45-58) discloses a process of cementing a well or subterranean zone with a cementing slurry which includes a mixture of both a hydroxyethylcellulose fluid loss agent and a hydrophobically-modified hydroxyethylcellulose fluid loss agent .

Accordingly, it would have been obvious to one of ordinary skill in the art to which the invention pertains, to similarly employ a mixture of hydrophobically-modified hydroxyethylcellulose and a non hydrophobically-modified hydroxyethylcellulose fluid loss agent in the process of Luke et al, as taught by Kirkland et al, in order to impart enhanced fluid loss control properties to the well cementing slurry, when cementing deep and/or high temperature wells, as taught by Kirkland et al (noted col. 3, lines 11-27).

It is deemed that the specific ratio of the first and second fluid loss agents utilized in the cementing method of Luke et al, as modified by Kirkland et al, as called for in pending claim 1, would have been an obvious matter of choice or design to one of ordinary skill in the art based

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on, e.g., routine experimentation for process optimization and/or the characteristics and properties of the subterranean zone(s) or wellbore environment actually encountered in the field. Moreover, such ratio falls within the overall ranges or relative amount of hydroxyethylcellulose and hydrophobically-modified hydroxyethylcellulose set forth in Kirkland et al (noted col. 3, lines 45-58). Further with respect to claim 1, it is deemed that the hydrophobically-modified hydroxyethylcellulose will necessarily or obviously possess a different or higher molecular weight than the non-modified hydroxyethylcellulose, by virtue of the additional alkyl group(s) added to the hydroxyethylcellulose by the hydrophobic modifying reaction.

Luke et al (col. 2, lines 6-47) clearly sets forth the zeolite formula of claim 2, and may utilize one or more of the specific zeolites set forth in claim 3, such as analcime.

As per claims 4 and 5, the cementing slurry utilized in Luke et al (note col. 2, line 62 - col. 3, line 6), as modified, includes a range(s) of zeolite which encompasses the ranges set forth in these claims.

As per claims 6-10, 18 and 19, the molecular weight of the respective fluid loss agents, and thus the comparative ratios recited, will vary depending on the particular first and second fluid loss agents selected and/or the chain length of the alkyl radical or hydrophobe attached onto the hydroxyethylcellulose in the modified process of Luke et al, with such selection, in turn, deemed an obvious matter of choice or design based on, e.g., relative availability and/or cost effectiveness.

As per claim 11-13, Luke et al, as modified by Kirkland et al (col. 3, lines 45-58) discloses each of the hydroxyethylcellulose and hydrophobically-modified hydroxyethylcellulose

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fluid loss additives may be present in the fluid loss agent blend within a range of 1-99% by weight, which includes the range(s)/ratio(s) recited.

As per claims 14-17, as noted above, the fluid loss agent(s) comprises a mixture hydroxyethylcellulose or hydrophobically-modified hydroxyethylcellulose.

As per claims 20-23, the cementing process of Luke et al (note col. 6, lines 21-34) employs water in the cementing slurry in an amount of 22-200 % by weight, which encompasses the ranges set forth in these claims.

As per claims 24-31, the cementing slurry components, such as type of cement or accelerator(s) are clearly set forth in Luke et al (note col.3, line 27- col. 4, line 17) or comprise conventional cementing slurry components useful in the well cementing art, hence their use in the process of Luke et al would be an obvious matter of choice or design based on, e.g., relative availability or cost effectiveness of such commercially-available cementing additives.

16. Claim 1-3 and 6-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roddy (6,457,524) in view of Kirkland et al (4,784,693)

Roddy discloses a process of cementing a subterranean zone(s) penetrated by a wellbore, i.e., a well cementing process, wherein the cementing slurry utilized comprises a dry cement mix or blend of zeolite and oil-well cement, as called for in claim 1. Roddy further discloses the use of a conventional fluid loss control agent or additive in the cementing slurry.

Kirkland et al (note col. 3, lines 45-58) discloses a process of cementing a well or subterranean zone with a cementing slurry which includes a mixture of both a hydroxyethylcellulose fluid loss agent and a hydrophobically-modified hydroxyethylcellulose fluid loss agent .

Accordingly, it would have been obvious to one of ordinary skill in the art to which the invention pertains, to similarly employ a mixture of hydrophobically-modified hydroxyethylcellulose and a non hydrophobically-modified hydroxyethylcellulose fluid loss agents in the process of Roddy, as taught by Kirkland et al, in order to impart enhanced fluid loss control properties to the well cementing slurry, e.g., when cementing deep and/or high temperature wells, as taught by Kirkland et al (noted col. 3, lines 11-27).

It is deemed that the specific ratio of the first and second fluid loss agents utilized in the cementing method of Roddy, as modified by Kirkland et al, as called for in pending claim 1, would have been an obvious matter of choice or design to one of ordinary skill in the art based on, e.g., routine experimentation for process optimization and/or the characteristics and properties of the subterranean zone(s) or wellbore environment actually encountered in the field. Moreover, such ratio falls within the overall ranges or relative amount of hydroxyethylcellulose and hydrophobically-modified hydroxyethylcellulose set forth in Kirkland et al (noted col. 3, lines 45-58). Further with respect to claim 1, it is deemed that the hydrophobically-modified hydroxyethylcellulose will necessarily or obviously possess a different or higher molecular weight than the non-modified hydroxyethylcellulose, by virtue of the additional alkyl group(s) added to the hydroxyethylcellulose by the hydrophobic modifying reaction.

The zeolite formula of claim 2 is deemed encompassed or inherent in Roddy, insofar as zeolites, per se, comprise combined aluminum oxides and silicon oxides, in varying amounts.

Official notice is taken that the specific zeolites listed in claim 3, such as analcime, are conventional and well-known zeolites. Accordingly, it would have been an obvious matter of choice or design to one of ordinary skill in the art to which the invention pertains, to select one of

the specific zeolites listed in claim 3 for use in the well cementing process of Roddy, as modified, based on relative availability or cost effectiveness.

As per claims 6-10, 18 and 19, the molecular weight of the respective fluid loss agents, and thus the comparative ratios recited, will vary depending on the particular first and second fluid loss agents selected and/or the chain length of the alkyl radical or hydrophobe attached onto the hydroxyethylcellulose in the modified process of Roddy, with such selection, in turn, deemed an obvious matter of choice or design based on, e.g., relative availability and/or cost effectiveness.

As per claims 11-13, Roddy, as modified by Kirkland et al (col. 3, lines 45-58) discloses each of the hydroxyethylcellulose and hydrophobically-modified hydroxyethylcellulose fluid loss additives may be present in the fluid loss agent blend within a range of 1-99% by weight, which includes the range(s)/ratio(s) recited.

As per claims 14-17, as noted above, the fluid loss agent(s) comprises a mixture hydroxyethylcellulose or hydrophobically-modified hydroxyethylcellulose.

As per claims 20-23, the cementing process of Roddy (note col. 5, lines 1-11), as modified, employs water in the cementing slurry in an amount of 30-70 % by weight, which encompasses the ranges set forth in these claims.

As per claims 24-31, the cementing slurry components, such as type of cement or accelerator(s) are clearly set forth in Roddy (note col. 5, line 12- col. 6, line 32) or comprise conventional cementing slurry components useful in the well cementing art, hence their use in the process of Luke et al would be an obvious matter of choice or design based on, e.g., relative availability or cost effectiveness of such commercially-available cementing additives.


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17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Suchfield whose telephone number is 571-272-7036. The examiner can normally be reached on M-F (6:30 - 3:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Glessner can be reached on 571-272-6843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


George Suchfield
Primary Examiner
Art Unit 3676

Gs
December 17, 2005